(5.3) Part D: **Putting it all together!**

Function & Describe the Transformations	List the Transformations	Vertex	Axis of Symmetry	Optimal Value/Max or Min
$y=a(x-h)^2+k$ 1) $2(x-3)^2-1$				
2) $y=-(x+3)^2+7$				
3) $y=1/3(x-8)^2+4$				
4) $y=-1/2(x-6)^2+10$				

When applying several transformations, read the relation from left to right, and apply the transformations in that order.

Inside the brackets → shift left or right *opposite* direction as sign.

Outside the brackets → shift up or down *same* direction as sign.

Apr 25-9:00 PM

(5.3) Part D: **Putting it all together!**

Function & Describe the Transformations	List the Transformations	Vertex	Axis of Symmetry	Optimal Value/Max or Min
$y=a(x-h)^2+k$ 1) $2(x-3)^2-1$	stretched by a factor of 2 horizontally translated 3 units right vertically translated 1 unit down	h,k $(3,-1)$	$x=3$	-1 min
2) $y=-(x+3)^2+7$	reflected $a=-1$ horizontal translation 3 units left vertical translation 7 units up	$(-3,7)$		
3) $y=1/3(x-8)^2+4$	$a=1/3$ $(8,4)$ compressed by $1/3$ horizontal translation 8 units right vertical translation 4 units up			
4) $y=-1/2(x-6)^2+10$	$a=-1/2$ $(6,10)$ reflected compressed by $1/2$ horizontal translation 6 units right vertical translation 10 units up			

When applying several transformations, read the relation from left to right, and apply the transformations in that order.

Inside the brackets → shift left or right *opposite* direction as sign.

Outside the brackets → shift up or down *same* direction as sign.

Apr 25-9:00 PM

(5.3) Part D: **Putting it all together!**

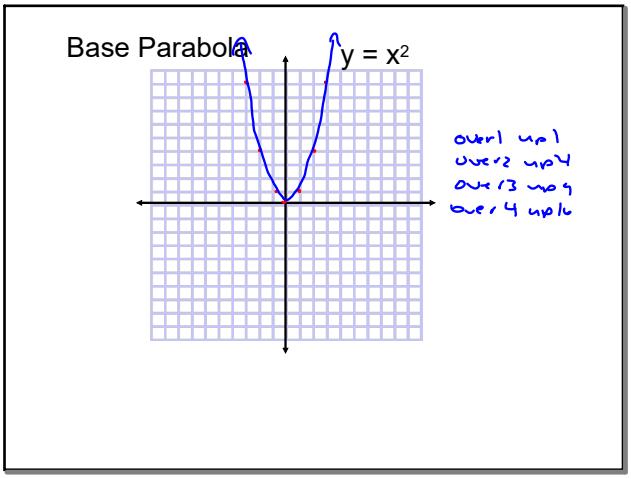
Function & Describe the Transformations	List the Transformations	Vertex	Axis of Symmetry	Optimal Value/Max or Min
$y=a(x-h)^2+k$ 1) $2(x-3)^2-1$	horizontal translation 3 units right vertical translation 1 unit down stretched by a factor of 2	$(3,-1)$	$x=3$	-1 min
$y=a(x-h)^2+k$ 2) $y=-(x+3)^2+7$	horizontal translation 3 units left vertical translation 7 units up reflected	$h\ k$ $(-3,7)$	$x=-3$	7 max
$y=a(x-h)^2+k$ 3) $y=1/3(x-8)^2+4$	horizontal translation 8 units right vertical translation 4 units up compressed by a factor of $1/3$	$(8,4)$	$x=8$	4 min
4) $y=-1/2(x-6)^2+10$	horizontal translation 6 units right vertical translation 10 units up reflected compressed by $1/2$	$(6,10)$	$x=6$	10 max

When applying several transformations, read the relation from left to right, and apply the transformations in that order.

Inside the brackets → shift left or right *opposite* direction as sign.

Outside the brackets → shift up or down *same* direction as sign.

Apr 25-9:00 PM

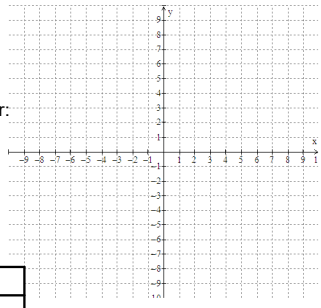


May 1-1:05 PM

1. Graph using transformations:

$$y=\frac{1}{2}(x+5)^2+2$$

List the transformations in order:



Apr 25-9:18 PM

1. Graph using transformations:

$y=a(x-h)^2+k$

$$y=\frac{1}{2}(x+5)^2+2$$

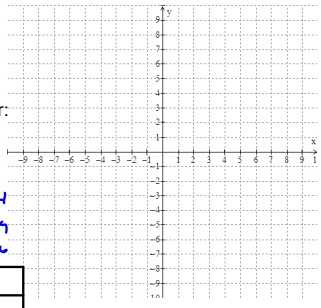
List the transformations in order:

$a=1/2$

h,k

$(-5,2)$

over 1 up 1
over 2 up 4
over 3 up 9
over 4 up 16



Apr 25-9:18 PM

1. Graph using transformations:

$y = a(x-h)^2 + k$

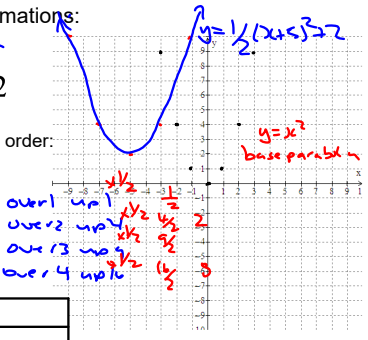
$y = \frac{1}{2}(x+5)^2 + 2$

List the transformations in order:

$a = \frac{1}{2}$

h, k

(-5, 2)

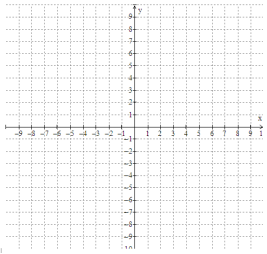


Apr 25-9:18 PM

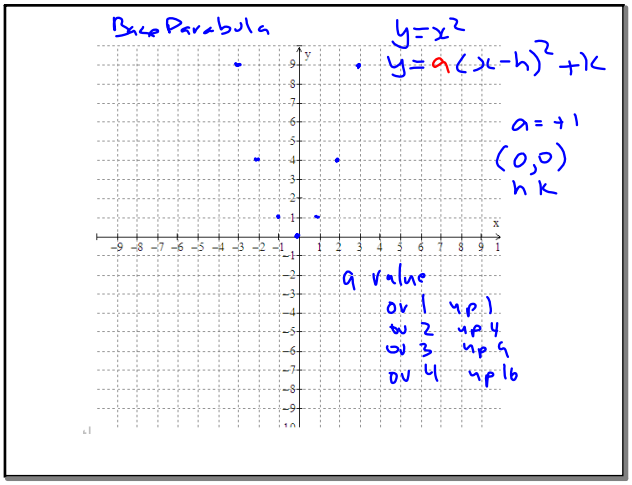
2. Graph using transformations:

$y = -2(x+3)^2 + 1$

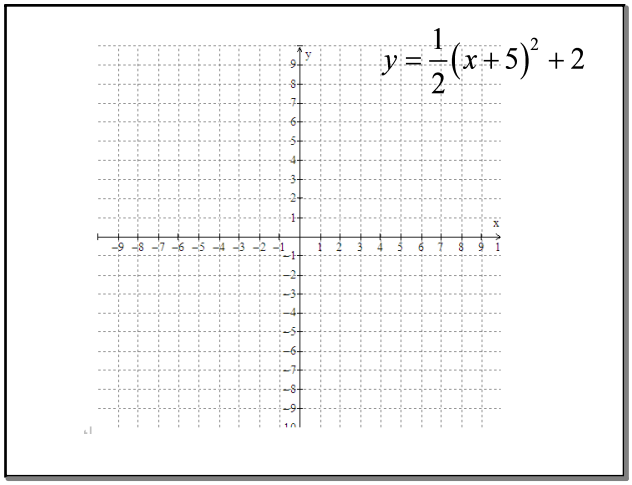
List the transformations in order:



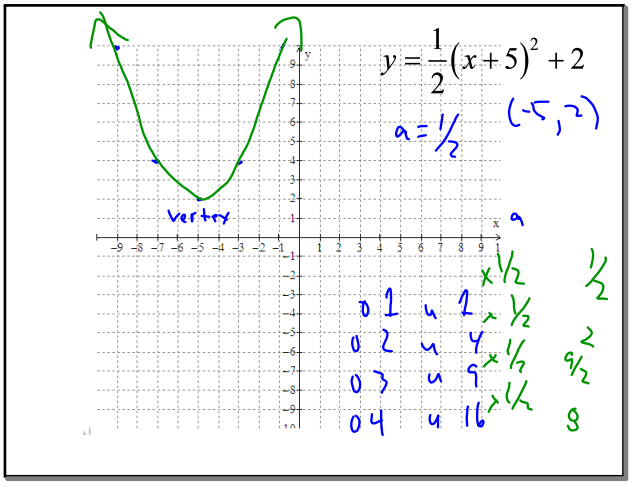
Apr 25-9:18 PM



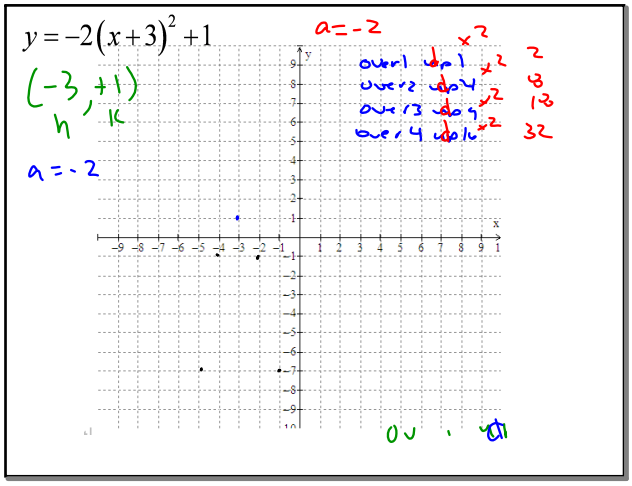
Nov 18-9:03 AM



Nov 18-9:03 AM



Nov 18-9:03 AM



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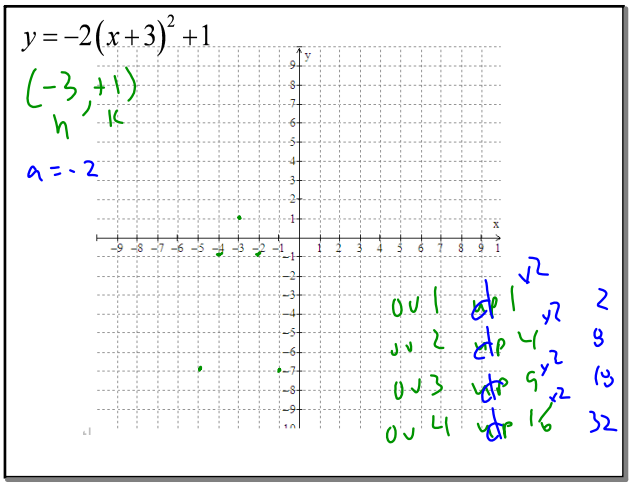
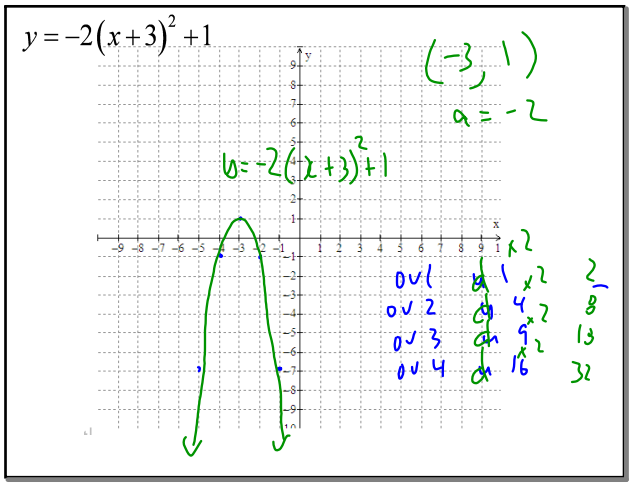


Nov 18-9:03 AM



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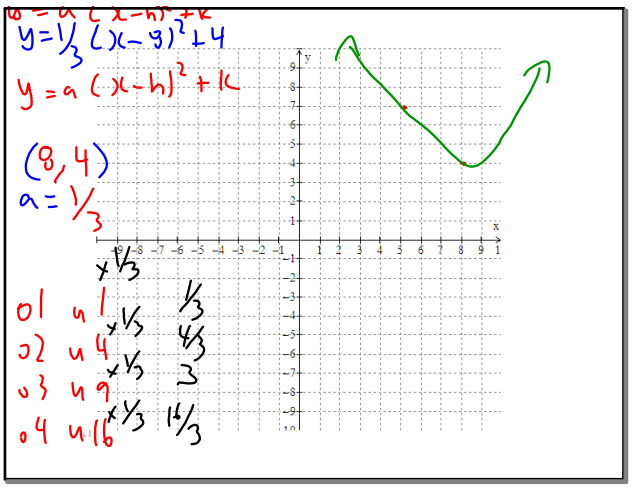

Nov 18-9:03 AM

Homework

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q. 1-7, 11,14

Apr 23-7:17 AM

May 1-12:18 PM